

Competitive Communities of Practice, Knowledge Sharing, and Machiavellian Participation: A Case Study

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This paper explores the emergence of Machiavellian behaviours in a Community of Practice (CoP). The CoP was initiated by the top management team (TMT) as a management development initiative. Participants in a manufacturing setting were encouraged to engage in a series of problem solving tasks with counterparts from across the organisation in a short-term CoP. A qualitative case study, using in-depth interviews, was conducted in a large processing plant in the Middle Eastern Kingdom of Bahrain. This is an empirical case study that explores employee participation in a short-term management development programme which sought to create CoPs to enable knowledge sharing. A competitive element was introduced, and we contend this promoted behaviours which served the individuals rather than the CoP. The findings indicate that TMT intervention change the dynamics of CoPs, reducing knowledge sharing and collaboration among community members. Recommendations are made to practitioners to be cognisant of the possibility of Machiavellian participation in CoPs.

Introduction

It is incumbent on organisations to facilitate the personal and professional development of their employees, as in doing so they not only enable continuous improvement in these individuals but increase the competitiveness of the organisation itself (Becerra-Fernandez & Sabherwal, 2014; Bollinger & Smith, 2001; Watkins & Marsick, 2003). Operationally, the benefits of effective learning opportunities include increased productivity, firm performance, and reduced costs (Neirotti & Paolucci, 2013). Being cognisant of the value of managing the learning process, facilitating the transfer of knowledge, and developing individuals is a beneficial process for organisations (Mohan, 2004) and forms the basis of human resource development activity in most organisations (Wilson, 2014).

The contribution this research makes is in exploring the use of a short-term Community of Practice (hereafter CoP) as part of a management development programme in a processing plant in Bahrain. A case study is presented of the competitively assessed programme which received strong support from the top management team (TMT) and Chief Executive Officer (CEO). The perceptions of the CoP participants are explored and the utility of the scheme is assessed; parallels are drawn with the Machiavellianist literature and we propose the moniker 'Machiavellian participation' which describes those CoP participants who are acting solely for their own interests rather than those of the wider group. We contend that the implementation of a competitive strategy undermines core CoP principles and, in so doing, encourages participants to adopt Machiavellian behaviours.

Knowing, Human Resource Development, and Communities of Practice

Seminal literature argues that knowledge provides the capacity for action (Argyris, 1993); acts as the frame for experience (Davenport & Prusak, 1998); is 'known' but cannot be 'told' (Polanyi, 1967); or is the product of socialisation within workplaces (Brown & Duguid, 2001). This latter point, that knowledge can be learnt socially, positions knowledge as an embedded feature of organisations, something tacit, context specific, and perhaps intangible (Nonaka & Takeuchi, 1995). For this reason the Human Resource Development (HRD) literature has begun to focus on the nature of knowledge exchange (Yeo & Marquardt, 2015) and on the implications of these principles for HRD practices (Gourlay, 2001; Ipe, 2003) as well as the broader development of the Human Resource Management discipline and practice (Kearney, Harrington, & Kelliher, 2014; Mohan, 2004).

Knowledge sharing can occur between individuals, across organisational boundaries, within and across teams (Alavi & Leidner, 2001). Learning can be facilitated and supported by managers (Probst & Borzillo, 2008) or can occur naturally, informally, or unintentionally (Ellinger, 2005). Challenging the notion that knowledge can be owned or controlled by managers and 'higher-ups', the framework of the CoP positions knowledge transfer as being part of the socialisation process in an organisation where meaning is generated from tacit knowledge (Borzillo, Aznar, & Schmitt, 2011; Lave & Wenger, 1991). A CoP, Wenger and Snyder (2000, p. 139) state, is "a group of individuals informally bound together by shared expertise and passion for a joint enterprise". This shared expertise is bound within a specific, in this case 'workplace', context with individuals contributing to a shared aim. Learning, in this forum, evolves naturally and there are group benefits and purposes to membership of the community as a whole (Shipton, 2006).

Reinforcing the nature of knowledge as a social construct, Wenger (2000, p. 226) positions knowing as “an act of participation in complex ‘social learning systems’”. As knowledge is embedded within the community, each member of the community that participates knows and so shares some of that knowledge, and may contribute to the creation of new knowledge. Thus, the key to learning within a CoP is participation (Wenger, 1998). CoPs are not static knowledge repositories, rather the act of multiple individuals participating in these shared practices leads to the CoP becoming a dynamic participative domain (Retna & Tee Ng, 2011). The assumption is that wishing to be accepted as a community participant is impetus enough for one to conform to the existing practices, accordingly, a new participant will wish to ingratiate themselves with established members of the community (Lave & Wenger, 1991); Alani, Dasmahaptra, O’Hara and Shadbolt (2003) suggest that often participants within a community seek to impress other community members before they will aim to impress a line manager.

That said, it cannot be assumed that all participants are motivated to share knowledge with their fellow participants (Barachini, 2009). It may be the case that some employees are acting in their own interests through hoarding knowledge, rather than sharing it, or hiding it from sight as a way of generating power and influence (Serenko & Bontis, 2016) rather than ‘thinking together’ as is the broader intention posited in the CoP literature (Pyrko, Dörfler, & Eden, 2017). Cognisant of these issues, within this case study the following research questions are addressed:

RQ1: What enables participation in a short-term, managed, Community of Practice?

RQ2: What disables participation in a short-term, managed, Community of Practice?

Restricted sharing of knowledge, and hoarding for self-purpose, is evident in this case study, and we propose the term 'Machiavellian participation' to capture this phenomenon.

Understanding Machiavellian behaviour at work

Machiavellianism in employees has long been studied from the individual perspective where behaviours have been identified and labelled as being 'Machiavellian in their nature'.

Previously, Machiavellianism has been studied as a style of leadership (Rego, Lopes, & Simpson, 2017), as a personality trait which leads to a breadth of counterproductive work behaviours (Cohen, 2016), or as a descriptor of unethical or abusive workplace behaviour (Greenbaum, Hill, Mawritz, & Quade, 2017). Fundamentally, these research perspectives agree that the Machiavellian individual is manipulative, seeks status for themselves, and both distrusts and seeks to control others (Dahling, Whitaker, & Levy, 2009).

In their research, Greenbaum et al. (2017) undertook a series of field and laboratory studies and found that being faced with an abusive supervisor was sufficient to activate Machiavellian trait behaviours. They found that the supervisor's behaviours combined with the subordinate's propensity to behave amorally or to seek control were the most influential in contributing to unethical behaviour in the employee. The implications for this, they propose, are that organisations ought to examine the conditions which give rise to these behaviours, such as removing situations containing cues for self-gain. Examples from van Zyl and Lazenby (2002) for improving positive actions and reduce unethical behaviours and their associated stressors, include creating supportive organisation cultures, training managers to deal with increasing demands, and setting realistic objectives.

When considering personality at work and, particularly, that of disorders which negatively impact the work environment, the 'dark triad' of personality are often mooted including Machiavellianism, narcissism, and psychopathy (Furnham, 2008). Although not a personality disorder per se, Machiavellianism is considered alongside personality disorders as the demonstrable behaviours contain some similarities, such as being selfish, callous, overly charming, and lacking in empathy (Furnham, Eysenck, & Saklofske, 2008); Furnham et al. (2008) note the irony that a number of otherwise negative traits aligned with Machiavellianism are often celebrated in senior managers and entrepreneurs. In these populations being charming, self-confident, cleverly deceptive, and cunning are behaviours that are largely celebrated; in their work Tymon and MacKay (2016) note how 'entrepreneurial' leadership behaviours are favoured by organisations in lieu of ethical or 'globally responsible' leaders.

Historically, the HRD literature has positioned Machiavellian and Authentic Leadership as contradictory styles, with the empirical research in the field focusing on the latter (Storberg-Walker & Gardiner, 2017). In their paper Rego et al. (2017) propose that authenticity and Machiavellianism are not opposites, rather they argue an authentic and values-driven leader might sometimes be persuaded, or required, to engage Machiavellian behaviour. This more nuanced approach challenges previous assumptions that those leaders who are defined as the archetypal Machiavellian would only embody 'authentic leadership styles' if it were to serve their greater purpose of guile, opportunism, and personal gain.

While the literature here has considered notions of Machiavellianism in organisations from a variety of perspectives, there are a number of behavioural principles which remain

common across different contexts. We will, therefore, take Machiavellian behaviour to mean that which is demonstrated by individuals who are distrustful of others, willing to be manipulative, desiring control, and who desire greater status (Dahling et al., 2009).

Research Context: 'We Got Talent': the creation of a CoP

The formation of CoPs with the support and encouragement of management is not a novel occurrence; Saint-Onge and Wallace (2012) write about a successful example of the cultivation of a CoP. Some of the mechanisms for managers to facilitate and encourage learning through a CoP include the encouragement of peer-supported learning to promote socialisation and the development of a network, rather than classroom-based training interventions (Brown, Collins, & Duguid, 1989). In research considering the nature of management control in CoPs, Bardon and Borzillo (2016) argue that strategic objectives for CoPs could be set, giving direction to follow when developing practices. A manager must, however, be conscious not to pressure the progress of CoPs or, indeed, to remove autonomy from them by being overly prescriptive with expectations.

The present research presents a case study of a large organisation in Bahrain, which attempted to generate CoPs through a competitive management development programme: 'We Got Talent' (hereafter WGT). Individuals from different business functions were brought together for a three-week period into competing teams and directed to complete specific group working and management tasks which had been designed to improve the overall leadership skills of staff in the organisation. The primary purpose of the programme was to facilitate the exchange of ideas and generation of knowledge across the organisation.

The WGT programme was competitive and included two teams (Black and Yellow) tasked with investigating, understanding, and solving organisational problems under the scrutiny of the CEO and other senior managers. Candidates were assessed individually within their teams and eliminated at pre-specified stages during the programme, with those performing least satisfactorily being asked to leave, this resulted in one overall 'winner'.

Methodology

The epistemological perspective adopted is founded upon a social constructionist paradigm; the scheme was both constructed and construed by participants through shared meanings, interaction, language, and culture (Berger & Luckmann, 1966; Burr, 2003; Cunliffe, 2008). From an ontological perspective, the research stresses the centrality of a pluralistic and dialogical approach to meaning and sense making (Bakhtin, 1986; Cunliffe, 2008; Merleau-Ponty, 2012). It is through language that participants in the WGT scheme made sense of their world, the tasks undertaken and also their surroundings (Gergen, Josselson, & Freeman, 2015; Shotter, 1993). The validity or invalidity of knowledge was irrelevant as what mattered was 'whatever passes for knowledge' in their given situation. Knowledge is created via a "continuing dialectical process' between externalization, objectivation and internalization" (Berger & Luckmann, 1966, p. 78). Accordingly, participants in the WGT "negotiate, organize and construct" their social work as they participate in and make sense of their surroundings (Cunliffe, 2003, p. 483).

Method

The methodological approach to this research utilised a single instrumental case study to understand the competitive knowledge-sharing scheme situated with a processing plant in

Bahrain, a Middle Eastern Kingdom. A total of fourteen semi-structured, individual, interviews with WGT participants were undertaken following their participation in the three-week programme. The duration of the interviews ranged from 35 to 60 minutes. The literature informed the creation of a theme sheet which acted as an interview question guide, centring on the following themes:

- Participants' motivations to take part in the programme.
- Experiences of participating in the CoP, including enablers and disablers.
- The role of the Top Management Team in forming the teams, promoting the programme, and assessing the tasks.

In this research the interviewer assumed the role of 'a working narrative partner' where "the subject behind the interviewer is fully engaged in the co-production of accounts" (Gubrium & Holstein, 2012, p. 33).

A case study is appropriate when trying to understand the how and why of phenomena (Yin, 2009). The research has adopted Stake's paradigmatic framework of using a case study to generate depth of understanding based upon a constructionist paradigm. Whilst the aim of qualitative case studies is not necessarily to generalise, the research seeks to make 'petite generalisations' as enunciated by Stake (1995). Arguably, some of the findings may have application to similar initiatives in other companies, in other cultures, and in the literature where innovative HRD interventions are considered (Ardichvili, 2003; Berragan, 2013; Yeo & Marquardt, 2015). We propose that this is congruous with Eisenhardt's 'roadmap' of building or expanding upon theories via case study research (Eisenhardt, 1989). The paper seeks to achieve methodological rigour by borrowing from both Yin and Eisenhardt's

methodological frameworks when undertaking fieldwork and analysing data (Eisenhardt, 1989; Yin, 2009).

Interviews were recorded and then where necessary, translated from Arabic to English. The interview transcripts were uploaded to NVivo for analysis and coding was conducted in two distinct stages. Adopting Saldaña's notion of 'coding for patterns' an initial coding exercise was undertaken to establish recurrent themes that emerged from the data (Saldaña, 2016). A second stage of axial coding was then undertaken to generate codes, categories and themes. In parallel with a social constructionist paradigm, data was interpreted on a "coding as heuristic" basis (Saldaña, 2016, p. 9). Here, coding was undertaken not simply as a labelling exercise or the placing of data in rigid taxonomies; rather a heuristic and more interpretative approach was adopted to get behind and beneath the data (Dey, 1999; Saldaña, 2016). From a deontological perspective all participants' identity has been protected and anonymity retained. Participants were informed of their right to withdraw from the interview process if they wished to and asked to confirm consent to being recorded at the commencement of all interviews.

Findings

Following a thematic analysis of the transcribed and translated interviews, themes were developed from the data, these are depicted in Table 1. The data reveal that there were distinct features of the WGT programme which enabled and disabled employee participation in the short-term CoPs. In this section illustrative quotes from interviewees are presented with respective themes identified in parentheses.

Insert Table One here

The findings from this research indicate that participants were engaged within a CoP, that they were encouraged to share knowledge, and that they were working collaboratively towards an overarching goal (the WGT tasks). The composition of the WGT teams meant that participants were integrating with employees from across the organisation, so there was the potential for knowledge sharing, and improvement in individual and organisation practice. This was important for participants who were new to the business:

“I am new in the company, I found this program a good chance for me to enhance my knowledge and working with teams in problem solving” (participant 3; E2, E3)

The inculcation of participants in a CoP was completed quickly and there were easily identifiable benefits to participating:

“from starting working on the first task solving activities, I felt part of the team within a smaller subset of the community” (participant 6; E2, E3)

One participant reiterated this point and noted the longer term implications of participating in the WGT programme:

“From the first day I feel that I belong to this team, I find myself comfortable when I make connection and during discussion with other team members and this make my participation in activities easier, and even after finishing the program we still have strong connection and meet from time to time” (participant 3; E2, E3)

When asked about the nature of the TMT engagement with the programme, some participants identified this as a positive feature:

“I want to present my best in front of our company CEO as this will help in future promotion, and this encourages me to work hard” (participant 7; E4)

However, others found the presence of the TMT and their peers a barrier to participation, they explained:

“I could not participate, as I do not want to get bad impression” (participant 1; D2, D4)

“I don’t know whether my experience and background about the task will be appreciated by the team or not, for that I prefer not offer it to avoid embarrassment” (participant 5; D2)

While the use of the WGT programme as an HRD initiative was recognised by some participants as valuable, there was also ambivalence, with one explaining:

“Although I want to share my knowledge I don’t know whether this will have an impact on me or not, as some of this knowledge is considered as confidential as it relates to my department” (participant 7; D1, E1)

In this extract it is clear that the participant recognises the value of their potential knowledge contribution but is reluctant to lose ownership of this by offering it to the community. Similarly, losing ownership of the project tasks as a whole was problematic for one participant who did not like the short-term nature of the CoP:

“we [were] excluded from following up with implementation of the proposed project, which disappoint us” (participant 6; D3)

Evidence of Machiavellian participation emerged from the data, and this was focused around participants wishing to protect their own image, or promote a positive image, in front of the TMT:

“we observe that some of team members tend to pretend that they work hard with full participation, but we know that it is just for give good image about themselves” (participant 6; D4)

While for others, Machiavellian participation involved attempting to prevent their own loss of competitive advantage through knowledge sharing, while maximising chances of winning through creating a favourable impression on the TMT:

“Due to competitiveness nature of program, some of team members try to work individually and act aggressively with team as they want to achieve their goal of winning, and not paying attention to the overall goal of collaboration, this makes the team weak and block the brain storming” (participant 8; D4)

In these examples the participants reported others acting selfishly in order to achieve their own ends, rather than acting for the good of the CoP where they might have been expected to collaborate, share knowledge, and contribute to the team tasks. Thus, the TMT involvement acts as both an enabler and disabler of participation and knowledge sharing, with individuals choosing to react to the presence of the TMT in different ways.

Discussion

The purpose of this research was to explore enablers and disablers to participation in a competitive, management created, short-term CoP. To that end we explored participants' perceptions of the 'We Got Talent' programme, and in so doing have gained an understanding of the impact of TMT involvement and competition on the development of knowledge sharing in a CoP.

The CoPs created in the WGT programme were formalised, with stated goals determined by management for the achievement of strategic objectives (Baumard, 1999; Saint-Onge & Wallace, 2012). This is not unusual (Saint-Onge & Wallace, 2012) but violates the traditional assumptions with respect to the self-governing and -directing nature of CoPs proposed in

the original formulation (Wenger, 1998) and subsequent research (Borzillo et al., 2011; Fletcher, 2014). As others have demonstrated, having the support of senior managers can have a significant impact upon the success and failure of CoPs (Krishnaveni & Sujatha, 2012; Ramchand & Pan, 2012). Organisations may choose to set strategic objectives for CoPs (Bardon & Borzillo, 2016) but are well advised to encourage and facilitate the process (Borzillo, 2009).

As with other CoPs, participation in the WGT was voluntary (Wenger, 1998), although not self-selecting. The research participants reported participating in order to enhance and develop their knowledge, supporting the core CoP notions that participants should have a shared aim or objective to be working towards. The CoP literature traditionally requires that communities must be self-forming and self-directed in order to 'qualify' as communities of practice. Our initial contention, that we sought to examine the utility of the WGT programme through this CoP lens, was underpinned by this original perspective. However, the data presented here support the notion that the participants in the WGT programme articulated CoP-like properties about the teams they worked in. We contend, therefore, that the participant's reification of their participation as being that which seeks to enhance their own knowledge, develop relationships, and learn from others is sufficient to argue that a CoP was formed.

Whilst it is clear that the WGT programme piqued interest in participants, the short-term nature of the programme meant that the benefits of knowledge sharing and collaborating within CoPs were not realised. Managerial decisions with respect to structure engendered indirect control over the activities of the CoP (Ramchand & Pan, 2012) and we contend that

the barriers identified here are at least in part attributable to the short-time horizon of the CoP. The process of group norming can be time consuming, and the process is not necessarily linear (Ito & Brotheridge, 2008). Further, trust is important for CoP engagement (Ardichvili, Page, & Wentling, 2003) and also develops over time (Huxham & Vangen, 2004). Thus, it is likely that the short-time horizon of the case study CoP (three weeks) limited the opportunity for the CoP to develop effective and satisfactory norms, thus impacting their performance.

Further undermining the development of a CoP was the competitive nature of the WGT programme. For some participants, the desire to impress senior organisational figures influenced the way in which they approached tasks and interacted within the group. We termed this *Machiavellian participation* as it emerged that participants were behaving in a way which sought to improve their own status to the cost of others' participation; other participants reported reduced participation, enjoyment, and benefit as a result. This is problematic, knowledge is created in CoPs through the interactions of members (Jakubik, 2008) and learning is engendered by participants' ongoing engagement and interaction in shared practices (Krishnaveni & Sujatha, 2012). Such *Machiavellian participation* in this case study reduced the interpersonal trust that is necessary for the effective functioning of CoPs (Ardichvili et al., 2003).

The manner in which the WGT was structured involved individuals regularly being ejected from the CoP following assessment by the TMT which, arguably, encouraged the display of Machiavellian behaviour in order that one participant may succeed over another.

Additionally, the act of reducing CoP membership in this manner also serves to undermine

the value which can be extracted from participating in a CoP; access to the tacit knowledge held by individuals (Nonaka & Takeuchi, 1995) is lost, the opportunity for micro-interactions that create knowledge are reduced (Jakubik, 2008) as are the number of people who can learn through participation in the tasks of the CoP (Krishnaveni & Sujatha, 2012; Wenger, 1998). This is counter-intuitive: where a CoP is designed as an HRD intervention specifically to maximise knowledge creation and learning, the removal of its core knowledge assets in the form of people is deleterious and ill judged. In addition, it is proposed the intra-group competitive nature of the WGT programme is likely to have contributed to the self-satisfying behaviour of those we have termed *Machiavellian participants*. Nonetheless, participants noted that the inter-group competitive element of the WGT programme spurred increased performance, as participants wanted, for differing reasons, to win the competition.

Accordingly, organisations need to carefully consider the manner in which they support CoPs. A balance needs to be struck between the creation and demonstration of vision suggested by scholars (Nonaka, Toyama, & Konno, 2000), the facilitation of CoPs (Borzillo, 2009) and an overt and seemingly deleterious interest that hinders active participation . That said, as with other studies that examine CoPs (Billett & Choy, 2011; Gamrat, Zimmerman, Dudek, & Peck, 2014) there were a number of positive outcomes. In particular, participants reported that (1) being involved in the programme created a sense of connection and belonging; (2) some of the relationships developed during the programme were maintained following completion; (3) useful and innovative solutions for organisational problems were developed; and (4) participants gained new knowledge, learning from the experience.

Limitations, Future Research, and Implications

The principle limitation of this study is that qualitative approaches may limit the generalisability and applicability to other settings (Edwards & Belanger, 2008). However, this approach is also a strength as we are able to provide contextualised and detailed insights (Yin, 2009) into a unique set of practices within heavily supported CoPs with short time horizons.

The contribution made to the existing body of literature is the identification of CoP participants who participate in the community only to support their own progression, rather than identifying with the broader purpose of the CoP. These *Machiavellian participants* were willing to be manipulative through hiding their own knowledge while capitalising on the sharing of their colleagues in order to improve their own status and not be expelled from the competition.

Further, this research contributes to the empirical development of the CoP literature as we add to the growing body of work which seeks to explore the implications of manager-designed communities as tools to facilitate an HRD agenda. As with other managed CoPs (Baumard, 1999; Saint-Onge & Wallace, 2012) the WGT programme delivered beneficial results for participants and the organisation. In this case study, however, the well-meant intentions to facilitate learning opportunities using a CoP approach to knowledge creation and sharing was undermined by the competitive structure of the WGT programme. This, in turn, encouraged some participants to engage in Machiavellian behaviours and participants were encouraged to work against the broader benefit of the group in order that they were selected as the 'winner'.

The primary contribution of this paper is in presenting evidence of the manner in which well-intentioned managerial support can negatively impact short-lived CoPs. In particular, those designing CoPs such as the WGT described should be cognisant of:

- The need to allow sufficient time for CoP development, norming and the generation of trust. The extent to which attention is placed upon results. Where TMT (Top Management Team) interest is evident to participants, it may be that the self-satisfying *Machiavellian participation* described herein is more likely to occur. Arguably, management are best served to support the process of CoPs without demonstrating too much focus on outcomes.
- The possibility of, and the need to identify and manage, *Machiavellian participation* within CoPs.
- The manner in which competition is included within CoP practice. While inter-group competition may spur performance CoP performance, intra-group competition may reduce participation.
- The potentially deleterious effect of reducing CoP membership through evaluation and ejection. As argued, this reduces opportunities for learning and knowledge creation within CoPs.

Recommendations for further research are twofold. First, given that knowledge in CoPs is created through micro interactions (Jakubik, 2008) and learning through participation in joint activity (Krishnaveni & Sujatha, 2012; Wenger, 1998), it may be that ethnographic approaches will garner deeper insights (Orr, 1996; Van Maanen, 2011) into these situated, contextualised, and deeply human processes. Second, we would invite other scholars to

further develop the notion of *Machiavellian participation* within CoPs as this would build on the already comprehensive literature on Machiavellianism in the workplace whilst also providing additional evidence to support the case that where this behaviour exists in a CoP then it is likely undermining the community's purpose.

Conclusion

This case study raises the question whether management influence is 'good' for a CoP, and the extent to which it impacts individual participation. In this case study, it was found that TMT involvement acted to both encourage participation from some while undermining the intended CoP principles of collaboration and knowledge sharing amongst others. Indeed, it was found that some individuals participated primarily to achieve their own ends. Such behaviour was to the detriment of others, the group as a whole, and as result is therefore detrimental to the organisation. We have established the term 'Machiavellian participants' to describe individuals who behave in such a manner in CoPs.

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Enablers	Disablers
E1. Desire to share knowledge	D1. Losing ownership of knowledge
E2. Networking and relationship building across teams	D2. Potential embarrassment of being wrong
E3. Opportunity to learn from others	D3. Short time limit (3 weeks) so reduced ability to develop relationships
E4. Meeting and (potentially) impressing the CEO and senior managers	D4. Competition - observation and assessment by the TMT (the TMT ejected 'losers' from the programme at the end of weeks 1 and 2)

Table 1: Themes